REMARKS

The comments of the Examiner as set forth in the Office Paper mailed 2 June 2005 have been carefully studied and reviewed.

Claims 30-46 are pending in the application.
Claims 30-46 are subject to a restriction requirement.
Claims 30-46 have been rejected.

The specification has been objected to.
The drawings have been objected to.

Amendments to the Specification

The amendment to the specification is to correct a typographical error noticed upon reviewing the specification, wherein "rosin" was inadvertently used instead of –resin–.

The basis for this amendment is the paragraph starting at p. 13. lines 5-6, in which "polymeric resins" are described.

No new matter has been added.

The other amendments to the specification are to correct references to, and a footnote in, the Tables, described further in a following section.

Election/Restriction

Applicant hereby affirms the provisional election made on May 26, 2005 to prosecute the invention of group a), claims 30-42 and 45, claims to a composition not claimed to be adhesive.

The claims of group b), claims 43-44 and 46, are hereby cancelled without prejudice solely to comply with the restriction requirement.

Specification

The disclosure was objected to because of informalities.

The amendments to the specification in the 12/6/2004 amendment have been resubmitted, and all references to the specification are to the substitute specification filed on 6 December 2004.

A sentence has been added to Table 2, to define the meaning of the asterisk within that table, referring to fatty acid nomenclature, that was inadvertently omitted from this Table. No new matter has been added.

Drawings

The drawing submitted 6 Dec. 2004 was acceptable, but the Examiner indicated the drawing appears to be of the prior art, rather than of the claimed invention, and if so, it should be labeled as prior art.

While some elements in the drawing are prior art, certain fat fractions are specifically claimed in Claim 40, and accordingly Applicant declines to label the drawing as prior art.

The Examiner indicated it was not clear by what is meant by Brief Description of the Several Views of the Drawing on page 8.

In response, 37 C.F.R. §1.77 (b) specifies the arrangement of, and order of, patent application elements, subsection (7) specifying "Brief Description of the Several Views of the Drawing". Applicant's labeling of the various sections of the application was done in conformance with this section (37 C.F.R. §1.77(b)(7)) of the Patent Rules.

Claim Rejections: 35 USC §112

Claims 30-42 and 45 were rejected under 35 U.S.C. 112, second paragraph, as

being indefinite.

Regarding Claims 30 and 45: warm has not been defined and is alleged to be a relative term which renders the claim indefinite.

Applicant traverses this rejection because although the term "warm" has not been defined in the claims, "warm" has been defined within the specification. Because the claims are read in light of the specification, Applicant respectfully submits that one of ordinary skill in the art would understand what is meant by the term "warm". Specifically, and referring to page and line numbers in the specification filed 6 Dec. 2004, p. 8, lines 11-16, the use of "... warm alkaline water, enabling the recycling of the treated material using conventional methods of paper recycling."

Example 1, particularly Table 3, indicate the water temperature was 125 degrees F, and lines 7-10 on p. 17 (of the 6 Dec. 2004 specification) indicate these were conditions simulating conventional paper recycling methods. Further, in the repulping tests described starting on p. 19, lines 19-21, the water temperature was specified as about 120 degrees F.

In view of the definitions of "warm" provided in the specification, Applicant submits that one of ordinary skill in the art would be reasonably apprised of the scope of the invention, and therefore requests that the rejections of these Claims be withdrawn.

Also regarding Claims 30 and 45: dispersible was alleged to be vague in that it is not clear whether or not dispersion actually takes place.

Applicant traverses this rejection because although the term "dispersible" has not been defined in the claims, it has been defined within the specification. Because the claims are read in light of the specification, Applicant respectfully submits that one of ordinary skill in the art would understand what is meant by the term dispersible.

Specifically, and referring to page and line numbers in the specification filed 6 Dec. 2004, p. 8, lines 11-16, Applicant indicates that the applied composition can be

removed from the treated material by dispersion in warm alkaline water, enabling the recycling of the treated material using conventional methods of paper recycling. On p. 12, lines 26-30, Applicants define what a dispersant is: a chemical which may, by itself, cause the composition to be dispersed from the surface to which it has been applied, for example, under aqueous conditions. See also the data in Table 5, and the text on p. 20, lines 5-17, describing the visually observed particle sizes of the removed wax. Thus, in this overall context, dispersal of the coating is meant to be removal of the coating from the treated material and its subsequent distribution within the aqueous medium in which the treated materials are immersed.

As indicated, this refers to the removal of the coating after it has been applied to the surface of the fibrous cellulosic material. In the specification, Applicant addresses a problem the invention is intended to solve, the difficulty of recycling of wax coated, cardboard containers (see page 3, line 1 through p. 5, line 6 of the specification filed 6 Dec. 2004, and particularly p. 3, lines 1-15).

Claims 30 and 45 have been amended to indicate that it is the –applied– composition that is dispersible in the warm aqueous solution.

Therefore, in view of the definitions of "dispersible" provided in the specification, Applicant submits that one of ordinary skill in the art would be reasonably apprised of the scope of the invention, and requests that the rejections of these Claims be withdrawn.

Claims 31-32, 34-35 and 37 were rejected because it is alleged that the phrase 'preferably" renders the claim indefinite. These claims have been amended to delete the terms "preferably" and "most preferably", solely to facilitate the prosecution of this application.

Claim 38 was cited as not agreeing with independent claim 30, which indicated the composition consists essentially of, not comprising. Applicant has amended independent Claims 30 and 45 to –comprising—. The basis for this amendment is the language of Claim 38 as originally filed, showing an intent to have additional elements in the composition, and the specification (page and line numbers of the substitute

specification filed 6 Dec. 2004) at p. 8, lines 18-20, and p. 12, line 26 - p. 13, line 2.

Claim 40 has been cancelled without prejudice solely to facilitate the prosecution of this application.

Claims 30-42 and 45 were rejected under 35 U.S.C. § 112, first paragraph, because the specification, while being enabling for composition that can be dispersed in an alkaline aqueous solution, allegedly does not reasonably provide enablement for dispersal in a solution that is not alkaline.

Independent Claims 30 and 45 have been amended to indicate that the composition is dispersible in a warm, –alkaline– aqueous solution. The basis for these amendments is p. 16, lines 15-23 of the specification filed 6 Dec. 2004.

Claim Rejections: 35 U.S.C. § 103

Claims 30-42 and 45 were rejected under $5 U.S.C. 103(a) as being unpatentable over Sleeter (U.S. Pat. No. 6,011,286, "the '286 reference").

The '286 reference allegedly teaches enhancing water resistance of materials such as fiberboard (1:54-67) with a composition of low iodine value (preferably 0-30, 1:40-52) triglyceride fats from plant or animal sources (2:21-46), such as a soy stearine (see Example 1), a triglyceride with stearic acid.

The '286 reference does not disclose the MP or saponification value of the triglyceride, but because stearine is one of the triglycerides claimed by applicant, the stearine of '286 would inherently have the same MP and saponification value as that claimed by applicant.

Applicant respectfully traverses the rejections of Claims 30-42 and 45. To reject a claimed invention based upon its obviousness over the prior art, the examiner must support such a rejection by establishing the invention's prima facie obviousness. The examiner must show where in the art cited there is a description of the claimed invention

sufficient to have taught or suggested the invention to ordinarily skilled artisans of the time (see, e.g., ACS Hospital Systems, Inc., v. Montefiore Hospital, 221 USPQ 929, 933 (F. Cir. 1984); see also, In re Fine, 5 USPQ2d 1596 (F. Cir. 1988)).

Evaluation of whether the cited documents provide the necessary description requires consideration of "(1) whether the prior art would have suggested to those of ordinary skill in the art they should make the claimed [invention] ... and (2) whether the prior art would have also revealed that in so making ... those of ordinary skill would have a reasonable expectation of success" (In re Vaeck, 20 USPQ2d 1438, 1442 (F.Cir. 1991)). "Both the suggestion and the reasonable expectation of success must be found in the prior art, not in the applicant's disclosure" (In re Vaeck, supra.). That is, "one cannot use hindsight reconstruction to pick and choose amongst isolated disclosures in the prior art to deprecate the claimed invention" (In re Fine, supra at 1600).

The Sleeter '286 reference teaches a composition for use in the manufacture of oriented strand board Sleeter, in Example 1, particularly at col. 4, lines 9-10, indicates the product is oriented strand board. See also Example 4 (col. 5, lines 22 - 25; Example 5; and Example 6, col. 6, lines 24 - 30). Oriented strand board is a structural building product, and it is not recycled.

At p. 6, line 4, (referring to the substitute specification filed on 6 Dec. 2004) Applicant discusses that products treated with the composition of the present invention are able to be recycled, using conventional methods of recycling fibrous cellulosic products (see also Claims 30 and 45, wherein in the last few lines of Claim 30 and 45, Applicant has stated not only is "the composition applied in a quantity sufficient to render the cellulosic material resistant to water" but also states that the composition is dispersible in a warm aqueous solution

Thus, one skilled in the art would not have looked to the Sleeter '286 reference to teach a composition for application to fibrous cellulosic materials that would produce a product with a coating that is recyclable. Therefore, Applicant respectfully submits that the rejection of Claims 30-42, and 45 under 35 U.S.C. §103(a) have been overcome, these Claims define patentable subject matter, and that the Examiner's rejection of

Claims 30-42 and 45 hereby be withdrawn.

Having distinguished the base Claims, Claims 30 and 45, over the prior art, Applicant respectfully submits that Claims 31-42, dependent upon Claim 30, are similarly distinguishable from the prior art, and therefore define patentable subject matter, and respectfully requests that the rejection of these Claims under 35 U.S.C. §103(a) be withdrawn.

The '286 reference is alleged it does not disclose the viscosity of the wax emulsions used in its examples, but it would have been obvious to one of ordinary skill in the art to have optimized the viscosity through no more than routine experimentation because viscosity is known to be an important parameter to control in coatings.

In response, the '286 reference does not describe whether the coatings applied to the boards are recyclable, only that they have water resistance. Claims 30-42, and 45, require that the applied composition be dispersible in a warm aqueous solution. But although the '286 reference describes use of oils as agents to render boards water resistant, the reference fails to disclose whether the sprayed-on triglyceride coating is recyclable, and therefore the Sleeter '286 is an inappropriate reference, and the rejections based on this reference must be therefore withdrawn. Because the reference fails to teach the elements of the claims, the issues of inherency of properties such as melt point, saponification value and viscosity are moot.

The '286 reference does not disclose the addition of dispersants, named as such, in its examples, but the Archer 1, referred to as a "synergistic adhesive" (5:33), may allegedly serve as a dispersing agent in the emulsion. Furthermore, it would have been obvious to one of ordinary skill in the art to have added a dispersant to an emulsion, because dispersants are conventional additives to emulsions.

The Archer 1 agent alleged to be a dispersing agent in the medium is actually a co-adhesive whose use helps to reduce the amount of resin used in the manufacture of panels, producing synergistic bonding for producing enhanced composite board properties. Archer I is conjugated linseed oil prepared by a process that produces an oil

with 70% conjugation or higher (Sleeter '286 at 3:21-41). Because Archer I is a co-adhesive, not a dispersant, the Sleeter '286 reference teaches away from the present invention, and the rejections based on this reference must therefore be withdrawn.

Dry particles of the triglyceride may be sprayed onto the substrate (3:1-19), allegedly meaning the composition is then 100% triglyceride, thereby meeting claim 41.

In response, the '286 reference does not describe whether the coatings applied to the boards are recyclable, only that they have water resistance. Claim 41, dependent upon Claim 30, still requires that the applied composition be dispersible in a warm aqueous solution. Because the '286 reference fails to disclose whether the sprayed-on triglyceride coating is recyclable, it is an inappropriate reference, and the rejections based on this reference must be therefore withdrawn.

It is alleged that the '286 reference discloses that the triglyceride may be used as a water emulsion (3:1-19), thereby meeting the requirement that the composition is 'dispersible in a warm aqueous solution".

In response, however, all that the '286 reference teaches is a water emulsion could be prepared, and that water emulsion used for application to a specific product. The claims in question disclose the ability of the applied coating to be dispersible in a warm aqueous solution. Nothing in the '286 reference teaches these elements of the claimed invention, and therefore, the Sleeter '286 actually teaches away from the claimed invention, and is thus inappropriate. Therefore, the rejections based on this reference must be withdrawn.

Claims 30-38, 40-42 and 45 were rejected under 35 U.S.C. 103(a) as being unpatentable over WO 96/00815 ("the '815 reference").

The '815 reference allegedly teaches applying a coating containing a triglyceride such as tristearin or a hardened vegetable oil to a paperboard, in order to make the coated paperboard more repulpable. Tristearin is a triglyceride with stearic acid; and additives such as beeswax, a type of paraffin (page 5), may also be present. The

coating composition may be applied in the molten state (p 5), thus meeting the requirements of claim 41. It is disclosed that the triglycerides may be removed from paperboard by several different means, including hot water (pp 6-7). See pages 2-7.

The '815 reference does not disclose the iodine value, MP or saponification value, or viscosity of the triglyceride.

In response, all that the '815 reference teaches is that wax coated paperboard is difficult to recycle, that wax-coated containers cannot be recycled (page 2, lines 10-20), and that there are several possible methods for removal of triglycerides from paperboard (p. 6, line 29 - p. 7, line 8), none of which were utilized in any of the Examples cited by the reference. The properties examined were primarily wet strength, crush strength and water absorption. Nowhere does this reference suggest that the coated products made with their coating are repulpable. As the inventors note in the '815 reference, "...the triglyceride coating do, in fact, take up significant quantities of water," and "However, it has also been surprisingly found that paperboard coated with the triglyceride-containing coating of the present invention retains strength even after taking up water." (p. 2, lines 26-30). In contrast, the Moisture Vapor Transmission Rate data (Table 4 of the present pending application, p. 18, line 25 through p.19, line 15 of the specification filed 6 Dec. 2004)) indicates that Applicant's coating provides a coated product with good moisture barrier properties.

The '815 reference does not describe whether the coatings applied to the boards are recyclable, only that they have water resistance. Claims 30-38, 40-42, and 45, claim that the applied composition be dispersible in a warm aqueous solution. But the '815 reference fails to disclose whether the coating is recyclable, and therefore it is an inappropriate reference, and the rejections based on this reference must be therefore withdrawn. Because the reference fails to teach all of the elements of the claims, the issues of inherency of properties such as melt point, saponification value and viscosity are moot.

Conclusion

Applicant thanks the Examiner for the thoughtful review of this application, and respectfully requests the Examiner review the pending Claims and to find that they define patentable subject matter. Thus, it is respectfully requested that the present pending Claims be allowed.

In the event that this Amendment does not place the application in condition for allowance, the Examiner is respectfully requested to telephone the undersigned in order that an attempt can be made to place the application in condition for allowance as expeditiously as possible.

Respectfully submitted,

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